

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Petrol Valves USA

File Reference: P4422-3001

Intl. Appln. No.: PCT/US04/36827

Intl. Filind Date: 05 November 2004

For: **METAL VALVE STEM AND SEALING  
SYSTEM**

**RESPONSE TO WRITTEN OPINION**

International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20  
Switzerland

Sir:

This Response and Amendment to the Claims is filed in response to the Written Opinion mailed June 9, 2005 for the above-referenced PCT Application.

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Date of Deposit: August 8, 2005

I hereby certify that this paper is being deposited with the International Federal Express overnight courier on the date indicated above and is addressed to: International Bureau of WIPO, 34, chemin des Colombettes, 1211 Geneva 20, Switzerland.

*Steven L. Goss*  
Signature

TERESA L. GOSS  
Typed or Printed Name of Person Mailing Paper or Fee

The claims in the pending PCT application have been amended as follows:

Claims 1 and 3-20 are unchanged. Claim 2 is replaced by amended claim 2.

Claim 2 has been amended to depend from claim 1 rather than depending from claim 2.

A replacement sheet is submitted for the original sheet containing claim 2.

Respectfully submitted,

BUCHALTER, NEMER, FIELDS & YOUNGER

Date: August 8, 2005

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## **CLAIMS**

What is claimed is:

1. A metal valve stem sealing system comprising:
  - a valve body;
  - 5 a metal valve stem housed within the valve body;
  - a bonnet member housed within the valve body;
  - a U-shaped metal stem gasket positioned between the metal valve stem and the bonnet member, wherein the gasket has a first lip member and a second lip member each having an interior surface and an exterior surface;
  - 10 a metal wedge ring fitted between the interior surface of the first lip member and the interior surface of the second lip member; and,
  - at least one metal energizing spring adjacent the wedge ring, wherein the metal energizing spring applies a sufficient force to the wedge ring to cause the wedge ring to apply a sufficient contact pressure to the first and second lip
  - 15 members to expand the first and second lip members to form a seal between the gasket and the metal valve stem and to form a seal between the gasket and the bonnet member.
2. The metal valve stem sealing system of claim 1 further comprising an
- 20 anti-rotation pin attached to the metal stem gasket.
3. The sealing system of claim 1 wherein the first lip member is coated on an exterior surface with an alloy selected from the group of alloys comprising tungsten carbides and chromium carbides.

## CLAIMS

What is claimed is:

1. A metal valve stem sealing system comprising:
  - a valve body;
  - 5 a metal valve stem housed within the valve body;
  - a bonnet member housed within the valve body;
  - a U-shaped metal stem gasket positioned between the metal valve stem and the bonnet member, wherein the gasket has a first lip member and a second lip member each having an interior surface and an exterior surface;
  - 10 a metal wedge ring fitted between the interior surface of the first lip member and the interior surface of the second lip member; and,
  - at least one metal energizing spring adjacent the wedge ring, wherein the metal energizing spring applies a sufficient force to the wedge ring to cause the wedge ring to apply a sufficient contact pressure to the first and second lip
  - 15 members to expand the first and second lip members to form a seal between the gasket and the metal valve stem and to form a seal between the gasket and the bonnet member.
2. The metal valve stem sealing system of claim 1 further comprising an
- 20 anti-rotation pin attached to the metal stem gasket.
3. The sealing system of claim 1 wherein the first lip member is coated on an exterior surface with an alloy selected from the group of alloys comprising tungsten carbides and chromium carbides.